

**Amendments to the Claims**

This listing of claims will replace all prior versions and listings of claims in the application.

Please cancel non-elected claims 6 and 16-19 and cancel claims 7 and 13 without acquiescence or prejudice. Please amend claims 1, 2, 8, and 9 and add new claims 20-32 as follows.

**Listing of Claims**

1. (Presently Amended) A method for ~~regulating~~decreasing expression of amyloid precursor protein in a cell, ~~said method~~ comprising ~~regulating~~contacting the cell with a small molecule that decreases expression of an ABC transporter, wherein the ABC transporter is a transporter that is expressed in a brain cell, and wherein decreasing expression of the ABC transporter thereby decreases expression of amyloid precursor protein in the cell.

2. (Presently Amended) The method of claim 1, wherein ~~said cell is a brain cell~~the ABC transporter is selected from the group consisting of ABCB6, ABCB9, ABCG1, ABCG4, ABCG2, ABCA1, ABCA2, ABCA3, ABCA5, ABCA6, ABCA8, ABCA9, ABCC5, ABCC10, ABCD1, ABCD2, and ABCD4.

3. (Original) The method of claim 1, wherein said ABC transporter is ABCB9.

4. (Original) The method of claim 1, wherein said ABC transporter is ABCG4.

5. (Original) The method of claim 1, wherein said ABC transporter is ABCG1.

6. – 7. (Cancelled)

8. (Presently Amended) A method of ~~regulating~~decreasing expression of amyloid precursor protein in a cell, ~~said method comprising regulating~~contacting the cell with a small molecule that inhibits the activity of an ABC transporter in said the cell, wherein the ABC transporter is a transporter that is expressed in a brain cell, and wherein inhibiting activity of the ABC transporter thereby decreases expression of amyloid precursor protein in the cell.

9. (Presently Amended) The method of claim 8, wherein the ABC transporter is selected from the group consisting of ABCB6, ABCB9, ABCG1, ABCG4, ABCG2, ABCA1, ABCA2, ABCA3, ABCA5, ABCA6, ABCA8, ABCA9, ABCC5, ABCC10, ABCD1, ABCD2, and ABCD4~~said cell is a brain cell.~~

10. (Original) The method of claim 8, wherein said ABC transporter is ABCB9.

11. (Original) The method of claim 8, wherein said ABC transporter is ABCG4.

12. (Original) The method of claim 8, wherein the ABC transporter is ABCG1.

13. (Cancelled)

14. (Original) The method of claim 1 or 8, wherein said cell is located in a human host afflicted by a condition characterized by accumulation of  $\beta$ -amyloid in a least one tissue or organ.

15. (Original) The method of claim 14, wherein said condition is Alzheimer's disease.

16. - 19. (Cancelled)

20. (New) The method of either claim 1 or claim 8 wherein the method comprises a cell-based assay.

21. (New) A method for decreasing expression of amyloid precursor protein in a brain cell comprising:

(a) identifying a compound that decreases expression of amyloid precursor protein comprising steps (i) contacting a test compound with a cell that expresses amyloid precursor protein and that expresses an ABC transporter, wherein the ABC transporter is a transporter that is expressed in a brain cell, and (ii) comparing the level of expression of the amyloid precursor protein in the presence of the test compound with the level of expression of the amyloid precursor protein in the absence of the test compound, thereby identifying a compound that decreases expression of amyloid precursor protein; and

(b) contacting a brain cell capable of expressing amyloid precursor protein with the compound identified in step (a), thereby decreasing expression of amyloid precursor protein in the brain cell.

22. (New) The method of claim 21 wherein the ABC transporter is selected from the group consisting of ABCB6, ABCB9, ABCG1, ABCG4, ABCG2, ABCA1, ABCA2, ABCA3, ABCA5, ABCA6, ABCA8, ABCA9, ABCC5, ABCC10, ABCD1, ABCD2, and ABCD4.

23. (New) The method of claim 21 wherein the ABC transporter is selected from the group consisting of ABCB9, ABCG1, and ABCG4.

24. (New) The method of claim 21 wherein the compound is a small molecule.

25. (New) A method for decreasing expression of amyloid precursor protein in a brain cell comprising:

(a) identifying a compound that decreases expression of amyloid precursor protein comprising steps (i) contacting a test compound with a cell that expresses amyloid

precursor protein and that expresses an ABC transporter selected from the group consisting of ABCB9, ABCG4, and ABCG1 and (ii) comparing the level of expression of the amyloid precursor protein in the presence of the test compound with the level of expression of the amyloid precursor protein in the absence of the test compound, thereby identifying a compound that decreases expression of amyloid precursor protein, wherein the test compound is a small molecule; and

(b) contacting a brain cell with the compound identified in step (a), thereby decreasing the expression of amyloid precursor protein in the brain cell.

26. (New) The method of either claim 21 or claim 25 wherein the compound decreases expression of the ABC transporter.

27. (New) The method of either claim 21 or claim 25 wherein the compound inhibits activity of the ABC transporter.

28. (New) A method for decreasing expression of amyloid precursor protein in a brain cell comprising:

(a) identifying a compound that decreases expression of an ABC transporter comprising steps (i) contacting a test compound with a cell that expresses amyloid precursor protein and that expresses an ABC transporter, wherein the ABC transporter is a transporter that is expressed in a brain cell, and (ii) comparing the level of expression of the ABC transporter in the presence of the test compound with the level of expression of the ABC transporter in the absence of the test compound, thereby identifying a compound that decreases expression of the ABC transporter;

(b) determining that the compound decreases expression of amyloid precursor protein comprising contacting the cell with the compound identified in step (a) and comparing the level of amyloid precursor protein in the presence of the compound with the level of amyloid precursor protein in the absence of the compound, thereby determining that the compound decreases expression of amyloid precursor protein in the cell; and

(c) contacting a brain cell with the compound, thereby decreasing the expression of amyloid precursor protein in the brain cell.

29. (New) A method for decreasing expression of amyloid precursor protein in a brain cell comprising:

(a) identifying a compound that inhibits activity of an ABC transporter comprising steps (i) contacting a test compound with a cell that expresses amyloid precursor protein and that expresses an ABC transporter, wherein the ABC transporter is a transporter that is expressed in a brain cell, and (ii) comparing activity of the ABC transporter in the presence of the test compound with activity of the ABC transporter in the absence of the test compound, thereby identifying a compound that inhibits activity of the ABC transporter;

(b) determining that the compound decreases expression of amyloid precursor protein comprising contacting the cell with the compound identified in step (a) and comparing the level of amyloid precursor protein in the presence of the compound with the level of amyloid precursor protein in the absence of the compound, thereby determining that the compound decreases expression of amyloid precursor protein in the cell; and

(c) contacting a brain cell with the compound, thereby decreasing the expression of amyloid precursor protein in the brain cell.

30. (New) The method of either claim 28 or 29 wherein the ABC transporter is selected from the group consisting of ABCB6, ABCB9, ABCG1, ABCG4, ABCG2, ABCA1, ABCA2, ABCA3, ABCA5, ABCA6, ABCA8, ABCA9, ABCC5, ABCC10, ABCD1, ABCD2, and ABCD4.

31. (New) The method of either claim 28 or 29 wherein the ABC transporter is selected from the group consisting of ABCB9, ABCG1, and ABCG4.

32. (New) The method of claim of either claim 28 or 29 wherein the test compound is a small molecule.